

PATENT

0200

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of
Alan M. Warshawsky et al.

Examiner:

#2

Art Unit:

Serial No.: **08/893,080**

Filed: **July 15, 1997**

Title: **3-Mercaptoacetylamino-1,5-Substituted-
2-Oxo-Azepan Derivatives Useful as
Inhibitors of Matrix Metalloproteinase**

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to Assistant Commissioner for Patents, Washington, D.C. 20231, on

September 9, 1997
Date of Deposit

Janet Grubb
Signature

INFORMATION DISCLOSURE STATEMENT
UNDER 37 C.F.R. 1.56, 1.97 AND 1.98

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:


Applicants submit herewith patents, publications, and other information of which they are aware, which they believe may be material, as defined in 37 C.F.R. 1.56(b), to the examination of this application and in respect of which there may be a duty to disclose in accordance with 37 C.F.R. 1.56(a). While the information referred to in this Information Disclosure Statement may be material pursuant to 37 C.F.R. 1.56(b), the filing of this Information Disclosure Statement is not intended to, pursuant to 37 C.F.R. 1.97(h), constitute an admission that any patent, publication or other information referred to is, or is considered to be, material to the patentability of this invention. Pursuant to 37 C.F.R. 1.97(g), the filing of this Information Disclosure Statement shall not be construed to mean that a search has been made or that no other material information exists.

- ☒ (a) This Information Disclosure Statement is filed within the period set forth in §1.97(b) because it accompanies the new patent application submitted herewith, is filed within three months of the filing date of a national application or within three months of the date of entry of the national stage as set forth in §1.491 in an international application, or is believed to be filed before the mailing date of a first Office Action on the merits, whichever event occurs last. However, in the event that the first office action has been mailed, the Commissioner is authorized to charge any fees under 37 C.F.R. 1.17(p) or credit any overpayment to Account No. 13-2764.

- ☐ (b) This Information Disclosure Statement is filed after the period set forth in 37 C.F.R. 1.97(b), but is believed to be filed before the mailing date of a final action under §1.113 or a notice of allowance under §1.311, whichever occurs first.
- ☐ (1) The undersigned attorney certifies that each item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this statement;
- ☐ (2) The undersigned attorney certifies that no item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application or, to the knowledge of the undersigned attorney after making reasonable inquiry, was known to any individual designated in §1.56(c) more than three months prior to the filing of this statement; or
- ☐ (3) This Information Disclosure Statement is accompanied by a transmittal letter in which payment of the fee set forth in §1.17(p) and required by 37 C.F.R. 1.97(c) is authorized.

The items listed with on the attached PTO-1449 (modified) have not been previously submitted by the examiner or the applicant in related applications of this series. Therefore, a copy of the reference(s) are enclosed with this Information Disclosure Statement.

Respectfully submitted,



David M. Stemerick, Reg. No. 40,187
Attorney/Agent for Applicant

Hoechst Marion Roussel, Inc.
2110 East Galbraith Road
P. O. Box 156300
Cincinnati, Ohio 45215-6300
Telephone (513) 948-7529
Telefax (513) 948-7961
(513) 948-4681

FORM PTO-1449 (Modified)	U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTY. DOCKET NO. M01846A	SERIAL NO. 08/893,080
<div style="border: 1px solid black; border-radius: 50%; padding: 10px; text-align: center; width: 100px; margin: 0 auto;"> O.T.P.E. SEP 11 1997 PATENT & TRADEMARK OFFICE </div> INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use several sheets if necessary)		APPLICANT Alan M. Warshawsky et al	
		FILING DATE July 15, 1997	GROUP

U.S. PATENT DOCUMENTS

EXAMINER INITIALS	*		DOCUMENT NUMBER							DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
		A1	4	6	8	1	9	6	6	7/21/87	Donald et al			
		A2	4	5	9	9	3	6	1	7/8/86	Dickens et al			
		A3	4	8	8	5	2	8	3	12/5/89	Broadhurst et al			
		A4	4	7	7	1	0	3	8	9/13/88	Wolanin et al			
		A5	5	3	0	4	5	4	9	4/19/94	Broadhurst et al			
		A6	5	3	1	0	7	6	3	5/10/94	Campion et al			
		A7	4	9	3	5	4	0	4	6/19/90	Hunter et al			
		A8	5	2	5	2	5	6	0	10/12/93	Myers et al			
		A9	5	3	6	2	7	5	0	11/8/94	Rosini et al			
		A10	5	3	0	0	5	0	1	4/5/94	Porter et al			
		A11	5	4	2	4	4	2	5	6/13/95	Flynn et al			
		A12	5	4	2	8	1	5	8	6/27/95	Warshawsky et al			
		A13	5	4	5	7	1	9	6	10/10/95	Warshawsky et al			
		A14	5	4	3	0	1	4	5	7/4/95	Flynn et al			
		A15	5	4	2	0	2	7	1	5/30/95	Warshawsky et al			
		A16	5	2	3	8	9	3	2	8/24/93	Flynn et al			
		A17	5	3	8	9	6	2	8	2/14/95	Flynn et al			
		A18	5	4	5	5	2	4	2	10/3/95	Warshawsky et al			
		A19	5	3	6	6	9	7	3	11/22/94	Flynn et al			
		A20	5	2	3	9	0	7	8	8/24/93	Galardy et al			
		A21	5	5	0	4	2	1	2	4/2/96	de Solmes et al			

FOREIGN PATENT DOCUMENTS

EXAMINER INITIALS	*		DOCUMENT NUMBER							DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
		B1	9	5	1	3	2	8	9	5/18/95	WO			YES	NO
		B2	0	5	3	4	3	6	3	3/31/93	EP				
		B3	0	4	8	9	5	7	9	6/10/92	EP				
		B4	0	6	2	1	2	7	0	10/26/94	EP				
		B5	0	2	3	6	8	7	2	9/16/87	EP				

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<p>EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.</p> <p>Not : Asterisk (*) if m(s) hav been pr viously cited in a r lated application(s) lther by the applicant or by th USPTO and therefor copies f the ref r nce(s) ar not being submitted</p>	

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FOREIGN PATENT DOCUMENTS

EXAMINER INITIALS	*		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES	NO
		B6	9 6 3 6 2 2 7	11/21/96	WO				
		B7	9 7 1 9 0 7 5	5/29/97	WO				
		B8	9 7 1 7 0 8 8	5/15/97	WO				

OTHER DOCUMENTS

EXAMINER INITIALS	*		AUTHOR, TITLE, DATE, PERTINENT PAGES, ETC.
		C1	McCachren, S.S. <u>Arthritis Rheum.</u> 34, pp 1085-1093 (1991)
		C2	Emonard, H. et al, <u>Cell Molec. Biol.</u> 36, pp 131-153 (1990)
		C3	Birkedal-Hansen, H., <u>J. Oral Pathol.</u> 17, pp 445-451 (1988)
		C4	Matrisian, L.M., <u>Trends Genet.</u> 6, pp 121-125 (1990)
		C5	Murphy, G.J.P. et al, <u>FEBS Lett.</u> 289, pp 4-7 (1991)
		C6	Matrisian, L.M., <u>Bioessays</u> 14, pp 455-463 (1992)
		C7	Schwartz, G.K. et al, <u>Cancer</u> 73, pp 22-27 (1994)
		C8	Bernhard, E.J. et al, <u>Proc. Natl. Acad. Sci.</u> 91, pp 4293-4597 (1994)
		C9	Zucker, S. et al, <u>Cancer Res.</u> 53, pp 140-146 (1993)
		C10	Chirivi, R.G.S. et al, <u>Int. J. Cancer</u> 58, pp 460-464 (1994)
		C11	Montgomery, A.M.P. et al, <u>Cancer Res.</u> 54, pp 5467-5473 (1994)
		C12	Hasty, K.A. et al, <u>Arthr. Rheum.</u> 33, pp 388-397 (1990)
		C13	Murphy, G. et al, <u>Biochem. J.</u> 248, pp 265-268 (1987)
		C14	Gearing, A.J.H. et al, <u>Nature</u> 370, pp 555-557 (1994)
		C15	Mohler, K.M. et al, <u>Nature</u> 370, pp 218-220 (1994)
		C16	McGreehan, G.M. et al, <u>Nature</u> 370, pp 558-561 (1994)

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														YES	NO
		B9	9	7	1	2	9	0	2	4/10/97	WO				
		B10	9	7	1	2	8	6	1	4/10/97	WO				
		B11	9	6	3	5	7	1	4	11/14/96	WO				
		B12	9	6	6	5	7	1	2	11/14/96	WO				
		B13	9	6	3	5	7	1	1	11/14/96	WO				
		B14	9	6	3	5	6	8	7	11/14/96	WO				

OTHER DOCUMENTS

EXAMINER INITIALS	*		AUTHOR, TITLE, DATE, PERTINENT PAGES, ETC.												
		C17	Wahl, R.C. et al, <u>Annual Reports in Medicinal Chemistry</u> 25, pp 177-184 (1990)												
		C18	Hennney, A.m., et al, <u>Proc. Natl. Acad. Sci.</u> 88, pp 8154-8158 (1991)												
		C19	Burns, F.R. et al, <u>Invest. Ophthalmol. and Visual Sci.</u> 30, No. 7 pp 1569-1575 (1989)												
		C20	Overall, C.M. et al, <u>J. Periodontal Res.</u> 22, pp 81-88 (1987)												
		C21	Miyazaki, K. et al, <u>Nature</u> 362, pp 839-841 (1993)												
		C22	Beckett, R.P. et al, "Recent advances in matrix metalloproteinase inhibitor research" <u>DDT</u> Vol. 1, No. 1, January, 1996, pp 16-26												
		C23	Blanchard et al, "Reevaluation of the Absorption of Carbenoxolone Using an In Situ Rat Intestinal Techinque", <u>Journ. Pharmaceutical Sci.</u> , Vol. 79, No. 5, May, 1990 pp 411-414												
		C24	Davies, B. et al, "A Synthetic Matrix Metalloproteinase Inhibitor Decreases Tomor Burden...", <u>Cancer Research</u> 53, May 1, 1993, pp 2087-2091												
		C25	Hodgson, John, "Remodeling MMPs", <u>Bio/Technology</u> Vol. 13, June 1995 pp 554-557												
		C26	Chapman, K.T., "Inhibition of Matrix Metalloproteinases...", <u>J. Med. Chem.</u> 1993, 36, pp 4293-4301												
		C27	Beeley N.RA, "Inhibitors of Matrix Metalloproteinases (MMP's)", <u>Curr. Opin, Ther. Patents</u> (1994) 4(1), pp 7-16												
		C28	Baxter, Andrew D. et al, "A Novel Series of Matrix Metalloproteinase Inhibitors for the Treatment of Inflammatory Disorders", <u>Bioorganic & Medicinal Chem. Letters</u> , Vol. 7, No. 7 pp 897-902, (1997)												
		C29	CA, Issue 3, pp 16, 126:60361y (1997)												

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